

Functional Strategy of PT. Kereta Api Indonesia (Persero) at UPT (Technical Implementation Unit) Jatinegara Locomotive Depot

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ABSTRACT

Developments and changes in the business climate in industry era 4.0 now requires companies to be more careful in making to a decision that is comprehensive which later will underlie keput usan that is strategy . By formulating a strategy means the company has made a formulation of what must be done both at the corporate level (company), business and functional. In this study will be discussed about how the functional level strategy carried out by PT. Kereta Api Indonesia (Persero) / KAI at UPT (Technical Implementation Unit) Jatinegara Locomotive Dipo . UPT (Technical Implementation Unit) Jatinegara locomotive depot, a workshop for its fleet of locomotives busiest in Pulau serve the needs of Java in a series of long distance train relation 1 Jakarta area of operations throughout the regions of operation in Java. As a UPT which is very influential on the smooth supply of railroad services , an effective and efficient strategy is certainly needed . In the study, it will simulate the kaizen method in the UPT (Technical Implementation Unit) of the Jatinegara Locomotive Dipo in carrying out its functional strategy by making direct observations and comparing qualitative data from interviews.

INTRODUCTION

In the world of global competition, competitive advantage is an important challenge for all companies. That is because the growth and success of a company is determined by the presence or absence of competitive advantages owned compared to competitors in the same industry (Widyantya, W. Daitoa, A. Riyanto, S. Nusraningrum, 2020).

The company must be able to develop better and be able to compete with other competitors, therefore companies are required to always make improvements and improve performance (Misbah, Pratikto, & Widhiyanuriyawan, 2015). In addition the

company can fulfill the wishes of the customer, therefore companies should be able to manage their production processes to be more efficient and effective (Setiyawan, D. T., Soeparman, S. & Soenoko, 2013). The tight competition in the industrial world, many companies are implementing lean manufacturing to reduce waste in the production system so as to create a lean production system with the aim of more efficient and effective and spur manufacturing companies to be competitive namely quality, price, on time delivery, and flexibility (Khannan & Haryono, 2015).

PT Kereta Api Indonesia is a company engaged in providing land transportation services, especially

trains . The services of PT Kereta Api Indonesia or abbreviated as PT KAI are railroad transportation services for both passengers and freight transportation. Nowadays, trains in Indonesia are in great demand because they are an alternative choice for users of public transportation because they are considered more efficient, timely, safe, comfortable, affordable prices free of illegal fees and its capacity is also calculated by its users. This is evident where during the Lebaran period and the new year the train becomes a favorite means of land transportation for travelers who want to return to their hometowns with allegedly sold out train tickets. The timeliness offered by PT Kereta Api Indonesia is a special attraction for the use of railroad transportation services , city congestion makes people switch to using railways compared to other modes of transportation . In addition to the problem of time, the benefits of others in the user 's mode of transportation as well as the cost of its reasonably priced good for the middle lower, middle and upper.

One of the reasons why PT Kereta Api Indonesia can be of interest to the public at the moment is that it has not escaped the strategy of PT Kereta Api Indonesia in managing its company both corporate / company level, business level and functional level strategies. With the motto "You are our priority", PT Kereta Api Indonesia continues to improve services from customer complaints. To get the best services such as punctuality, PT KAI must run a reliable train fleet so that there are no train travel disruptions that cause train delays. The Department of Facilities as a provider and guarantor of the reliability of the train armada both locomotives, trains and carriages.

In this study we will discuss the functional strategy of the facilities department especially the locomotive depot in caring for the locomotive fleet so that the locomotive fleet can be available and guaranteed reliability. This study was carried out at the UPT (Technical Implementation Unit) of the Jatinegara Locomotive Dipo where the locomotive maintenance had a level of busyness that was dense enough so that the right method was needed to make the heavy work more effective and efficient. In observations, it was found that prior to 2016 the number of locomotive disturbances was still relatively high, knowledge among employees was uneven because technical staff only focused on their part of work and historical locomotive reliability data was still recorded globally. Here a simulation of the implementation of the kaizen method will be carried out in the Jatinegara Locomotive Dipo operation.

Formulation of the problem

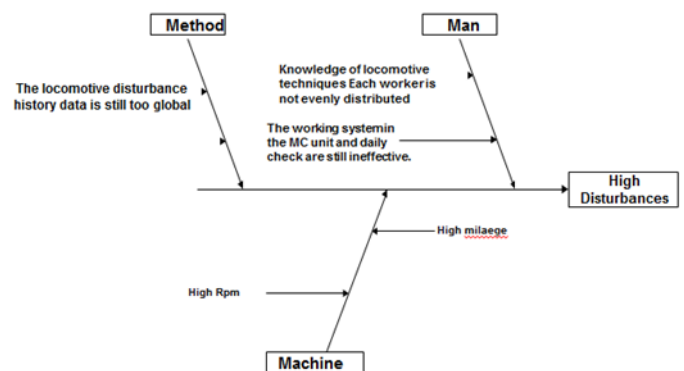
From the preliminary description above it can be formulated whether the kaizen method can

overcome the high number of locomotive disorders in the year before 2016?

Identification of problems

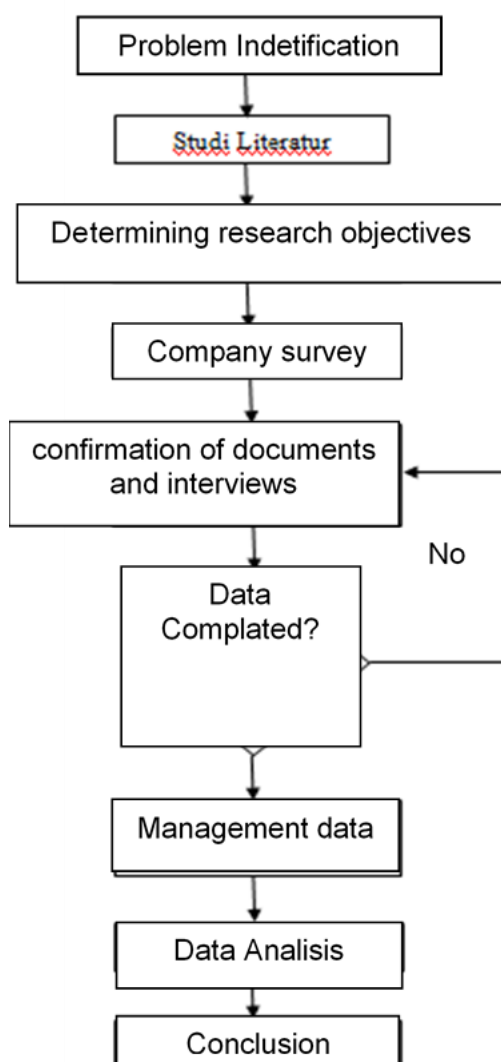
- The work system in the losd and daily check units is still ineffective.
- Uneven employee technical knowledge.
- Less effective in taking data mileage at each location.
- High work rpm locomotive.
- Historical locomotive disturbance data is still too global.

Diagram fishbone



Writing purpose

The purpose of this paper is to describe the effectiveness of work with the application of Kaizen in the Jatinegara Locomotive Dipo in reducing the number of locomotive facility disruptions. The choice of this method is because it is very popular in Japanese companies. Information used in the final results was obtained from direct observations in the field, personal assistance from officials and workers, analysis of data from the Jatinegara Locomotive Dipo archive. The QC supervisor of the Dailycheck department, the Workshop Supervisor of the Mountlycheck department, the planning and logistics supervisor of the KOR department (Coordination, Organization and Plan) as well as several supervisors / leaders are some of the sources in this study. The flowchart of this research was conducted at the Jatinegara Locomotive Dipo.



THEORETICAL BASIS

Strategy management

Strategy management according to (David & David, 2013), states that "Strategic management can be defined as the art and science of formulating, implementing, and evaluating cross-functional decisions that enable an organization to achieve its objectives."

The level of decision making in a company is usually divided into three levels. At the top level there is a corporate / company level strategy) that is the corporate strategy is a strategy that reflects the entire direction of the company, with the aim of creating growth for the company as a whole and management of various business product lines . At the next level, decision making lies at the business level where the managers in it are tasked with translating the formulation of directions and desires generated at the corporate level into concrete goals and strategies for each business division. Then the functional level , where the functional strategy is

associated with the interpretation of the role or function of the department in implementing business/competitive strategies. In this case, the functional strategy is directed by the business strategy.

In implementing strategy management (Lukiastuti & Hamdani, 2011), states that Organizational structure contributes influence to effectiveness implementing alternative strategies outlined. The right organizational structure will be able to make the objectives of a company can be achieved effectively. Structure community organizations proper division of labor between groups or individuals and coordinate it in an integral whole, there are several Basic considerations that must be accompanied include:

- 1) Tasks that must be carried out
- 2) People who are obliged to carry out these tasks
- 3) How to ensure that those who carry out the task is the right person.

Strategic decisions will not have any meaning if the strategic decisions are not translated into strategic actions. As stated by Peter Drucker (1995), as follows: "One cannot make decisions for the future. Decision are commitments to action. And actions are always in the present, and in the present only. But the action in the present is also the one and only way to make the future. "

Functional Strategy

Functional strategies focus on the productive use and optimization of resources. This strategy is more operational because it is made and developed in their respective sections, such as based on analysis, for example a functional strategy carried out in the production department, where the department develops a new production system so that the resulting production becomes more efficient. This time or cost efficiency can affect the nominal cost of the product to be sold. Likewise, functional strategies in other departments both human resources, financial research and development departments and marketing.

In making decisions at this level, it must be taken comprehensively by considering the impact on the internal interests of the department or the interests related to other departments. Therefore a good functional strategy is done in synergy between departments in order to formulate an integrated strategic decision. Strategic decision making at this level must also support each other with another level of strategy so that the company achieves its overall goals.

LITERATURE REVIEW

The definition of religiosity is a system of beliefs and complex attitudes and rituals that connect an individual with one being or with something divine.

Religiosity is a comprehensive unitary element, which makes a person called a religious person, and does not merely claim to be a religious person. Religiosity includes religious knowledge, religious beliefs, religious ritual practices, religious experiences, religious behavior (morality), and social religious attitudes. In Islam, religiosity is largely reflected in the practice of faith, sharia, and morals, or other terms, it is called Faith, Islam, and Ihsan. If all elements have been owned by someone, then he is a truly religious person. In the book of religious psychology, Zakiah Daradjat put forward the terms religious awareness and religious experience. Religious awareness is the aspect of religion that is felt in the mind and can be tested through introspection, or can be said to be a mental aspect of religious activity. Religious experience is an element of feeling in religious awareness, that is, feelings that lead to beliefs generated by actions (Jalaluddin, 2008). Whatever the term used by experts to refer to the religious aspect in humans, points to the fact that religious activities are indeed inseparable from human life. In it, there are various things concerning moral or morals, as well as one's faith and devotion (Spinks, 1963).

The word "din" cannot be equated with the word religion or religion in terminology. Because the meaning of the din is the rule of God placed through the mouth of His Prophets (Al-Ghazi: 2000). From this religious term came the term religiosity. Although derived from the same word but in its use, the term religiosity has a different meaning from religion. The word religion refers to the formal aspects relating to rules and obligations; religiosity refers to aspects of religion that have been internalized by the individual in the heart (Mangunwijaya, 1982). Religiosity is often defined by diversity. Religiosity is understood as the extent of knowledge, how sturdy beliefs are, how much the implementation of worship, and the rules and appreciation of the religion they profess. For a Muslim, religiosity can be known from the extent of knowledge, belief, implementation, and appreciation of the religion of Islam (Fuad Nashori and Rachmy Diana Mucharam, 2002).

Hawari (1996) mentions that religiosity is the appreciation of religion and the depth of belief expressed by performing daily worship, praying, and reading the Qur'an. According to Glock & Stark, there are five dimensions which are the essence of religiosity. Religiosity according to them is how committed a person is on the five substances of religious teachings. These five substances by Glock & Stark, called the ideological, the ritualistic, the experiential, the intellectual, and the consequential (Stark & Glock 1968). Based on the description above, it can be concluded that religiosity is the depth of appreciation of one's religious sense and one's belief in the existence of God which is realized

by obeying orders and avoiding the prohibition with full sincerity of heart and with all body and soul.

Religiosity or a person's religion is very much determined by many things, including the factors of education, family, experience, and exercises carried out in childhood. A teenager who during his childhood had religious experiences from his parents, social environment, and friends who obeyed religious orders and received religious education both at home and at school was very different from children who had never received religious education at his childhood, then when he grows up he will not feel how important religion is in his life. People who get intense religious education both at home and at school and in the community tend to live within religious rules, accustomed to practice worship, and fear to violate religious restrictions (Syahridlo, 2004).

Technological progress is a must and is part of God's grace. Therefore, in responding to technological advances it must be based on a spirit of gratitude for God's gift so that technology will be appropriate. Religiosity in the era of the industrial revolution must grow and develop in line with the technology itself. Easy access to one's interactions with others throughout the world, across cultures and ideas, requires that one has a good understanding of religion and a strong sense of diversity. A Muslim must have personal piety and social piety, especially when he must interact with heterogeneous communities.

Today the very big challenge for this nation in facing industrial revolution 4.0 is the character of the people who are not ready to face differences of opinion. With the opening of insight and information universally, every person has the potential to access anything taboo to be discussed so that everything can be displayed vulgarly in their hands. Indonesian society today is still confined to the old mindset which requires that a person can only be in groups and be friends with people who are in the same ideas and their understanding. If this mindset is maintained then what happens is great friction in the community because the opening of the dimensions of space and time makes it impossible not to collide with differences.

Islam encourages people to be sensitive to change because that change is sunatullah. This change then becomes a challenge for the religion of Muslims in this modern era. In the secularist theses, modern humans put religion away from the public domain and put forward the rational aspect. This mindset is because religion is considered unable to walk with science and hinders the pace of modernity. Though such a thesis has a big mistake. Besides, because it has also been disputed by social theorists like Peter L. Berger. This mistake is also not by the Qur'anic verses which praise those who think. Allah SWT praised them in the Qur'an surah Ali Imran [3]: 190, Verily in the creation of the

heavens, the earth, and the difference between day and night, there are signs (His power) for people to think.

Responding to the above verse, globalization encourages people, especially religious people, to be able to face the progress of the times. They must be able to seize the opportunity and face the challenges of the 21st century. This is because the problem of building civilization is not from religious teachings, but humans. And to prepare people to be dynamic along with the times, the right learning model is needed.

Seeing that, the Industrial Revolution 4.0 does not need to be considered a threat to religion, on the contrary religion is not a threat to the Industrial Revolution 4.0. In this case, it is important to emphasize the importance of aligning science and technology with religion. Science and technology must always be based on the moral values of religion so as not to damage human values. While religious teachings must be brought closer to the context of modernity so they can be compatible with all times and places.

To realize all this, religious education becomes very important, especially in the young generation of this nation. Studying proper and measured religiosity will create a generation of Muslims who are personable, polite, tolerant of differences, and responsive to the times.

METODE

Kaizen was created in Japan after World War II. The word Kaizen means "increase sustainable ". It comes from the Japanese word 改 (" kai ") which means "to change" or "correcting" and 善 ("zen") which means "good". Kaizen is a system that involves every employee - from top management to the cleaning crew. Each person encouraged to provide small improvements regularly. This is not once a month or once a year of activity. This continuously. Japanese companies, like Toyota and Canon, a total of 60 to 70 suggestions per employee per year are written, shared, and implemented (Kabir, Bobby & Lutfi, 2013).

(Heizer, Render, & Munson, 2008), "Kaizen A focus on continuous improvement". state that Kaizen is included in the seven concepts of an effective Total Quality Management (TQM) program which is a refinement of 14 Edward Deming points. The seven concepts of an effective TQM program include: Continuous Improvement (Kaizen), Six Sigma, Employee Empowerment, Benchmarking, Just In Time (JIT), the Taguchi Concept, and Seven TQM Tools.

Kaizen or Continuous Improvement

Cane (1998) in (PD, 2012) explains in Japanese, kaizen means continuous improvement. Key features of kaizen management include paying more attention to

process and not results, cross functional management and using quality circles and other equipment to support continuous improvement. Ardiansyah (2013: 6) explained that kaizen is an umbrella concept that covers most of the practicalities of Japan that are recently famous throughout the world. The umbrella concept can be seen in the image below:

(PD, 2012) states that kaizen has several concepts that companies can use to make improvements, these concepts are:

1. 3M concept (Young, Mura, and Muri)
2. The concept of 5S / 5R movements (Seiri, Seiton, Seiso, Seiketsu and Shitsuke)
3. PDCA concepts (Plan, Do, Check and Action)
4. The concept of 5W + 1H.

3M concept (Young, Mura, Muri)

(Kato, Isao, 2012) explained that Muda is any activity that is worthless or wasteful activity that does not add value to the product or service.

(Kato, Isao, 2012) explained that Mura can be interpreted as an uneven or irregular process in the production process activities.

(Kato, Isao, 2012) state that Muri can be interpreted as overloading or exceeding the limits of the ability of workers to do their jobs.

Concepts of 5S / 5R Movement (Seiri, Seiton, Seiso, Seiketsu and Shitsuke)

5S is an intensive method of structuring and maintaining work areas originating from Japan that is used by management in an effort to maintain order, efficiency, and discipline at work sites while enhancing overall company performance. The application of 5S is generally implemented in conjunction with the application of kaizen in order to encourage the effectiveness of implementing 5S. In Indonesia this method is known as 5R, whereas in America and Europe it is known as 5C.

The contents of 5S include :

1. Seiri, Sort, is an activity to get rid of items that are not needed so that all items in the work location are only items that are really needed in work activities.
2. Seiton, Set in order, everything must be placed in the designated position so that it is ready to use when needed.
3. Seiso, Sweep, is an activity to clean equipment and work areas so that all work equipment is maintained in good condition.
4. Seiketsu, Standardize, is an activity to maintain personal hygiene while complying with the three previous stages.
5. Shitsuke, Discipline, that is maintaining the personal discipline of each worker in carrying out all stages of 5S.

PDCA concept (Plan, Do, Check, Action)

(Ferdian Shah, 2011) states that in kaizen there are two types of cycles or flows, namely the Plan-

Do-Check-Action (PDCA) cycle and the Standardize-Do-Check-Action (SDCA) cycle. Both of these cycles are a means of ensuring the continuity of the implementation of kaizen, in order to realize a policy of maintaining and improving or raising standards. The PDCA and SDCA cycle can be seen from the picture below.

Plan-Do-Check-Act



(Ferdian Shah, 2011) states that the stages of the PDCA cycle are plans related to setting targets for improvement and formulating action plans to achieve these targets. Do (Do) related to the application of the plan. Check refers to determining whether the application is on the right track according to the plan and monitoring the progress of the planned improvement. Actions are related to standardizing new procedures to avoid re-occurring the same problem or setting new targets for further improvement.

The concept of 5W + 1H

(PD, 2012) states that one of the mindset to run the PDCA wheel in kaizen activities is by asking 5W + 1H basic questions (what, who, why, where, when and how).

Employee Empowerment

(Heizer et al., 2008) state that employee empowerment enlarges the scope of work of workers so that added responsibility and authority will be part of the lowest possible level in the organization

(Heizer et al., 2008) Techniques for building employee empowerment include:

- 1) building communication networks that include employees;
- 2) developing open, supportive supervisors;
- 3) moving responsibility from both managers and staff to production employees;
- 4) building high morale organizations; and

- 5) creating such formal organization structures as teams and quality circles.

Just In Time

(Heizer et al., 2008) state that Just In Time is a continuous improvement designed to produce and deliver goods when they are needed. Just In Time deals with quality in three ways, namely: JIT cuts the cost of quality, JIT improves quality, better quality means less inventory.

Benchmarking

(Heizer et al., 2008) state that benchmarking is a program that includes the selection of product, service, cost or habit standards that represent the best performance of a process or activity similar to a process or activity. The idea is to develop a goal to be achieved to set a standard or benchmark that can be compared with our performance.

The Taguchi concept

(Heizer et al., 2008) state that the Taguchi concept provides three concepts aimed at improving quality and process, namely quality toughness, quality loss function, and target-oriented quality.

Seven Tools

TQM Devices Are seven devices that are very useful in TQM, the seven devices include: check sheets, scatter diagrams, cause and effect diagrams, pareto diagrams, flow diagrams, histograms, statistical process control diagrams.

RESULTS AND DISCUSSION

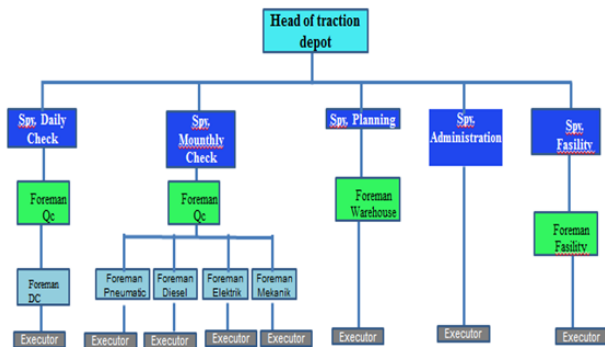
DISCUSSION

Jatinegara Locomotive Dipo

Jatinegara Locomotive Main Dipo is a locomotive maintenance facility owned by PT. Indonesian Railways that stood long before Indonesia's independence. This dipo is located on Jl. Pisangan Baru 3, No. 1 Matraman-Jatinegara-East Jakarta, just behind the west of Jatinegara Station.

The Jatinegara Locomotive Dipo is led by a Head of Dipo and Traction (KDT) or commonly called the Head of Technical Implementation Unit (KUPT). Before the directorate of operations and facilities separated, the Head of Dipo and Traction supervised a machinist instructor and several section heads (KR) / SPV or section heads. But now only oversees SPV in the operational process. For more details, here is an overview of the organizational structure of Jatinegara Locomotive Dipo

Jatinegara Locomotive Depot organizational structure



Jatinegara Locomotive Manpower Dipo Formation

Until 2020, there are approximately 90 employees working at the Jatinegara Locomotive Dipo, with the following details: Organic Employees (77 people) and Outsourcing Employees (13 people) not including Locomotive washing, Cleaning Service, PKD / Security employees and the BBM handling team.

Jatinegara Locomotive Dipo Operational Activities

Jatinegara locomotive depot has a fundamental duty and function berkaitan with maintaining and managing the locomotive of PT. Kereta Api Indonesia (Persero) among other things carried out in this activity are determining the locomotive that will be used to carry the train train series to their respective destinations. In addition, periodic locomotive checks are also carried out on this activity. Which includes periodic checks are daily checks (daily check) / QC , monthly checks (monthly check) / LOSD (Workshop) , checking quarterly, six-monthly checks and annual checks.

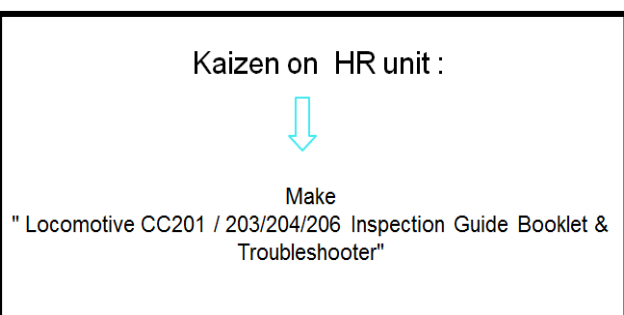
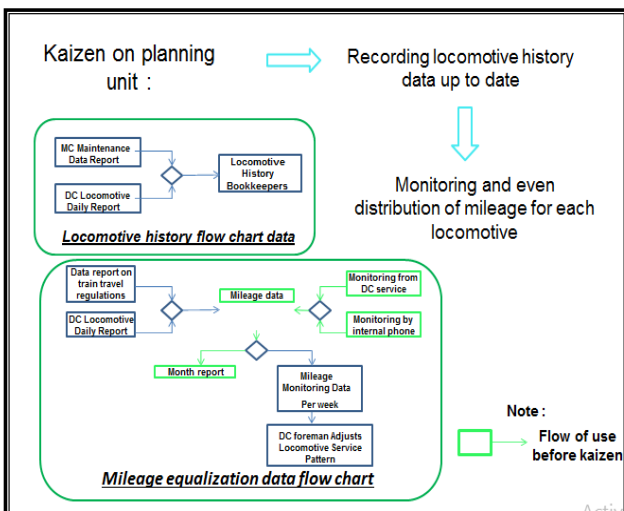
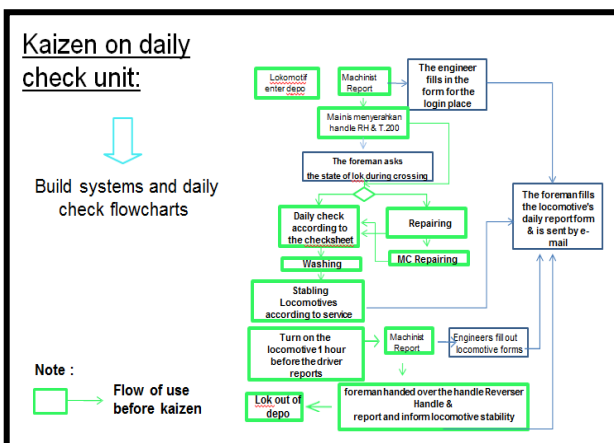
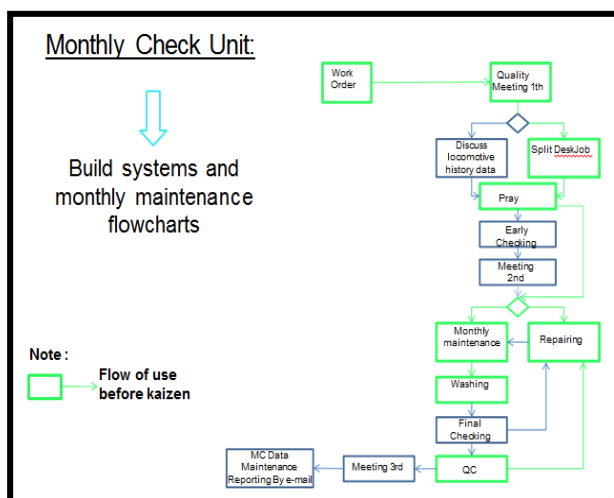
Kaizen Implementation

Implementation refers to the process of change that refers to the actions, reactions, and interactions of various interests to move the company from its current position to more advanced conditions (Yokozawa & Steenhuis, 2013), From the research conducted, it was found that the culture of kaizen was first introduced in locomotive depot, when a change of leadership in 2015 , kaizen activity was introduced by the new leadership (KDT) and began to apply thoroughly gradually with various work processes Jatinegara Locomotive Dipo as an effort to reduce the number of locomotive facility disturbance. Brunet and New (2003) in their study entitled Kaizen in Japan: Empirical Study, explained that the culture of kaizen in organizations can adapt from time to time, and

reflect changes in organizational environmental conditions. From the results of research on key informants, it indicates that the culture of kaizen which was originally introduced was gradually adapting due to various continuous improvement activities, which then formed a more adaptive Kaizen culture in the working environment of Jatinegara Locomotive Dipo . From the aspect of organizational culture, the most influential dimension is employee consistency, especially in cultural factors which give recognition to the ability of employees as the main source of company competitive advantage (Riyanto, Ariyanto, & Lukertina, 2019).

Benefits Culture Kaizen Against Corporate Benefits culture of kaizen to the company according to (Yokozawa & Steenhuis, 2013), in his research meny a Takan "These benefits are reported along both social and technical dimensions of Organizations and include cost reduction, productivity improvement, reduction in defects, and improvement in employee's morale and motivation. " From what was done, according to key informants, productivity was stated to increase when kaizen culture began to be defined as work culture . The workflow process carried out related to kaizen becomes a motivation and improves the quality of the work of the employees . Based on the statements of several employees , the benefits associated with increasing productivity are actually experienced, where job capabilities have increased based on the culture of kaizen that is applied . From the increased productivity of planning employees / KOR can also predict work on time, and can make reports up to date . From the research conducted, it was found a practical interpretation of the purpose of the application of kaizen culture in the Jatinegara Locomotive Dipo, namely the reduction in the number of disturbances . MC and QC Supervisor at Jatinegara Locomotive Dipo explained the quality of work and productivity in a process of maintaining and maintaining locomotive facilities is a fixed price. The Planning supervisor / plan states that there are several goals in the application of kaizen culture, including; increase productivity, accommodate employee ideas and creativity, and find alternative solutions to problems that are difficult to deal with. According to him , the aim of implementing the kaizen culture is to increase productivity, make efficient use of materials, and work time.

The work flow in each section of the Jatinegara Locomotive Dipo before and after applying the kaizen method in several units:



RESULTS

Results of applying the Kaizen method

After applying this kaizen method, locomotive disturbance which was very high was now able to be suppressed by quality control where after completing maintenance the employees made a final check of their work and the Jatinegara Locomotive Dipo did the challenge by giving a locomotive disturbance tolerance limit for one year, and some the application of kaizen is

- 1) The locomotive disturbance rate is down
- 2) Reporting from each unit / segment is more neat and consistent .
- 3) Recording of lok history data is more up to date.
- 4) Retrieval of kilometer data is more accurate according to the office ka.
- 5) Even distribution of mileage for each locomotive
- 6) Increased knowledge of technical techniques for each tablespoon.

DATA FAILURE OF LOKO OPERATIONAL

NO	DIPO ROKUK	TOLERANSI 2017 + BY (GAPEKA 2017)				TOLERANSI 2018 + BY (GAPEKA 2017)				TOLERANSI GANGGUAN KHUSUS TANGGUNGAN DEPO 2019				TBY 25%
		JUMLAH SG	PER TAHUN	PER TW	PER BULAN	JUMLAH SG	PER TAHUN	PER TW	PER BULAN	PER TAHUN	PER TW	PER BULAN	PER TAHUN	
1	Jng	41.0	28.6	7.2	2.4	41.0	16.7	4.2	1.4	12.7	3.2	1.1	4.0	
2	Tha	3.0	2.1	0.5	0.2	3.0	1.2	0.3	0.1	0.9	0.2	0.1	0.3	
3	Be	29.0	20.3	5.1	1.7	29.0	11.8	2.9	1.0	9.0	2.2	0.7	2.8	
4	Cn	16.0	11.2	2.8	0.9	16.0	6.5	1.6	0.5	4.9	1.2	0.4	1.6	
5	Sec	14.0	9.8	2.4	0.8	14.0	5.7	1.4	0.5	4.3	1.1	0.4	1.4	
6	Pwt	32.0	22.3	5.6	1.9	32.0	13.0	3.2	1.1	9.9	2.5	0.8	3.1	
7	Yk	30.0	21.0	5.2	1.7	30.0	12.2	3.0	1.0	9.3	2.3	0.8	2.9	
8	Mn	9.0	6.3	1.6	0.5	9.0	3.7	0.9	0.3	2.8	0.7	0.2	0.9	
9	Sdt	63.0	44.0	11.0	3.7	62.0	25.2	6.3	2.1	19.2	4.8	1.6	6.0	
10	Jr	10.0	7.0	1.7	0.6	10.0	4.1	1.0	0.3	3.1	0.8	0.3	1.0	
11	Mdn	33.0	25.1	6.3	2.1	33.0	13.4	3.4	1.1	10.2	2.6	0.9	3.2	
12	Pd	16.0	17.7	4.4	1.5	16.0	6.5	1.6	0.5	4.9	1.2	0.4	1.6	
13	Kpt	84.0	60.1	15.0	5.0	84.0	34.1	8.5	2.8	26.0	6.5	2.2	8.1	
14	Trk	59.0	74.0	18.5	6.2	59.0	24.0	6.0	2.0	18.2	4.6	1.5	5.7	
15	Ths	47.0	0.0	0.0	0.0	47.0	19.1	4.8	1.6	14.5	3.6	1.2	4.6	
Total		486.0	349.4	87.4	29.1	485.0	197.0	49.3	16.4	150.0	37.5	12.5	47.0	
TOLERANSI GANGGUAN TANGGUNGAN BALAI YASA														
1	BY Yogyakarta		57.5	14.4	4.8					23.8	6.0	2.0		
2	BY Lahat		44.7	11.2	3.7					18.4	4.6	1.5		
3	BY Pulubrenan		8.4	2.1	0.7					3.2	0.8	0.3		
3	BY Padang									1.6	0.4	0.1		
Total			0.0	110.6	27.6442	9.21474	0	0	0	47.0	11.8	3.9		
Total		486	460.0	115.0	38.3	485.0	197.0	49.3	16.4	197.0	49.3	16.4		

Source: Internal Data Locomotive disturbance report for 2017-2019 PT. KAI

CONCLUSION

- The Kaizen method proved successful in overcoming problems in the Jatinegara Locomotive Dipo in suppressing locomotive disturbance rates.
- Kaizen has several concepts that companies can use to make improvements, these concepts are:
 1. 3M Concepts (Young, Mura, and Muri)
 2. The concept of 5S / 5R movements (Seiri, Seiton, Seiso, Seiketsu and shitsuke)
 3. PDCA concept (Plan, Do, Check and Action)
 4. Concept of 5W + 1H.
- Some of the results of the Jatinegara Locomotive Dipo achievement in implementing the kaizen method include :
 1. The locomotive disturbance rate is down.

2. Reporting from each unit / section is more systematic and consistent.
3. Recording of lok history data is more up to date.
4. Collecting data more accurately correspond kilometers kereta api .
5. Even distribution of mileage for each locomotive.
6. Increased knowledge of technical techniques for each tablespoon

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